

## EMERGENCY DEPARTMENT VISITS FOR OVERDOSE BY OPIOID, UNSPECIFIED SUBSTANCE AND HEROIN AMONG VIRGINIA RESIDENTS

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January 2017

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## Background

The Virginia Department of Health (VDH) receives data on visits to 82 acute care hospital emergency departments (EDs) and 13 free-standing EDs in Virginia for purposes of public health surveillance. The purpose of this report is to characterize ED visit trends for acute unintentional overdose by opioids and heroin among Virginia residents.

Chief complaints and discharge diagnoses of ED visits are analyzed by VDH to identify and monitor issues of public health concern across Virginia. The chief complaint is a free-text field that captures the patient's primary reason for seeking medical care as interpreted by the ED registration staff. The discharge diagnosis is a coded field that uses standardized values outlined by the International Classification of Diseases (ICD) 9<sup>th</sup> and 10<sup>th</sup> Revision code sets.

## Methodology

ED visits that are identified as **unintentional overdose by opioid or unspecified substance** include those with medical and non-medical use of a prescription opioid or where the substance is not specified, given evidence that the majority of fatal overdoses are opioid-related.<sup>1</sup> These visits must meet the following inclusion and exclusion criteria:

- Inclusion terms from Chief Complaint or Discharge Diagnosis: *overdose, OD, sobredosis, opioid, opiate, opium, narcotic, Narcan, naloxone, E850.1, E850.2, 965.00, 965.02, 965.09, 977.9, T40.0X1, T40.0X4, T40.2X1, T40.2X4, T40.3X1, T40.3X4, T40.4X1, T40.4X4, T40.601, T40.604, T40.691, T40.694, T50.901, T50.904*
- Exclusions terms from Chief Complaint or Discharge Diagnosis: *suicide, alcohol overdose alone, withdrawal, detoxification, rehab, addiction, dependency, mental health or psychological evaluation, allergies, constipation, chronic pain, refill requests, and any specified non-opioid drug or medication*

ED visits that are identified as **unintentional overdose by heroin** must meet the following inclusion and exclusion criteria:

- Inclusion terms from Chief Complaint or Discharge Diagnosis: *heroin, herion, 965.01, E850.0, T40.1X1A, T40.1X4A*
- Exclusions terms from Chief Complaint or Discharge Diagnosis: *suicide, withdrawal, detoxification, rehab, and addiction*

These criteria were revised in September 2016 in order to improve specificity in the identification of ED visits for unintentional drug overdose. Readers are strongly encouraged to review [syndromic surveillance data limitations](#) when interpreting this report.

ED visits for unintentional overdose by opioid or unspecified substance and heroin are presented by count or rate per 100,000 population. Rates are calculated using U.S. Census Bureau 2015 population estimates. To protect confidentiality and maintain accurate rate calculations, ED visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed in this report. Counts of 0 are included.

The geographic location is assigned based on the patient's residential zip code provided. A single zip code may span multiple city and county localities in Virginia. If a patient resides in such a zip code, the visit is assigned to the locality where the majority of the population resides. Places where the Virginia city and county populations have been combined to calculate a rate per 100,000 population due to zip codes spanning multiple localities can be found in [Appendix 1](#).

## Highlights for January 2017

Statewide ED visits for overdose by opioid or unspecified substance among Virginia residents increased by 61 visits (9%) in January 2017 compared to December 2016.

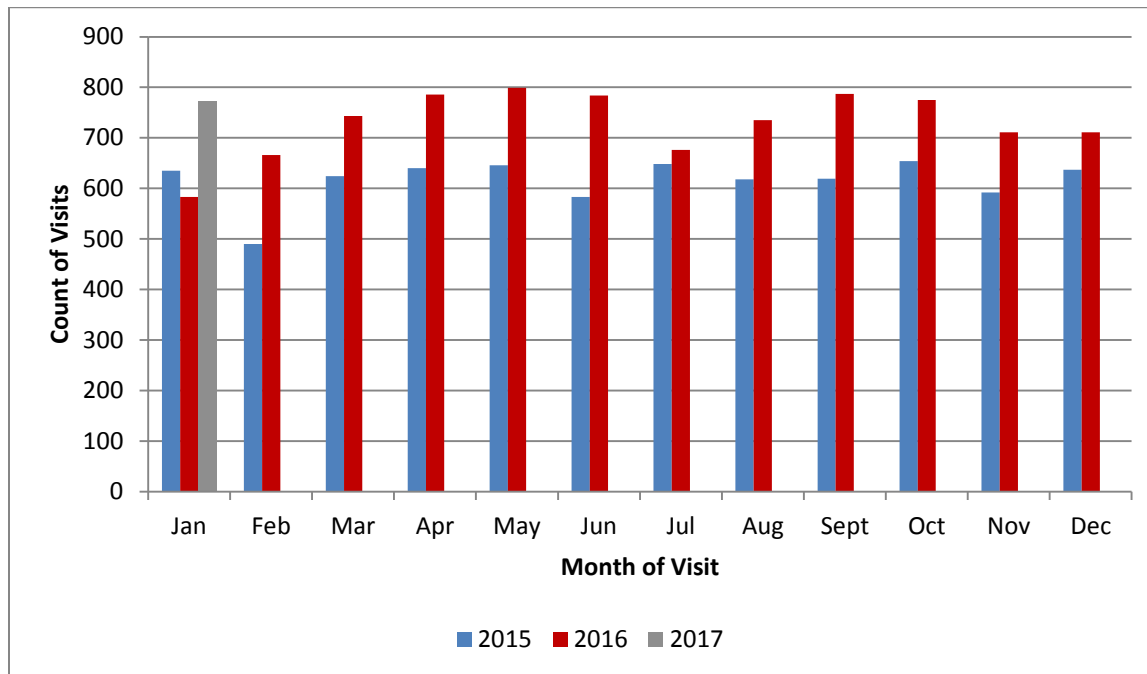
- Among the 5 [VDH health planning regions](#), visits for overdose by opioid or unspecified substance increased in the following regions, Northwest (27 additional visits, 26%), Eastern (26 additional visits, 17%), and Central (11 additional visits, 7%) while decreasing in the Northern and Southwest regions.
- By sex, visits for overdose by opioid or unspecified substance increased among both males (13 additional visits, 4%) and females (48 additional visits, 14%).
- By age group, visits for overdose by opioid or unspecified substance increased among those aged 15-24, 25-34, 35-44, 45-54, and 55-64 years. The greatest increase was observed among the 45-54 year age group with 40 additional visits (46%).
- Among the 35 [VDH health districts](#), the largest increases in visits for overdose by opioid or unspecified substance were observed in Peninsula (20 additional visits, 69%), Rappahannock (17 additional visits, 65%), West Piedmont (9 additional visits, 43%), and Mount Rogers (5 additional visits, 42%). West Piedmont surpassed Roanoke as the VDH health district with the highest visit rate per 100,000 population.

The count of statewide ED visits for overdose by heroin among Virginia residents did not change between December 2016 and January 2017.

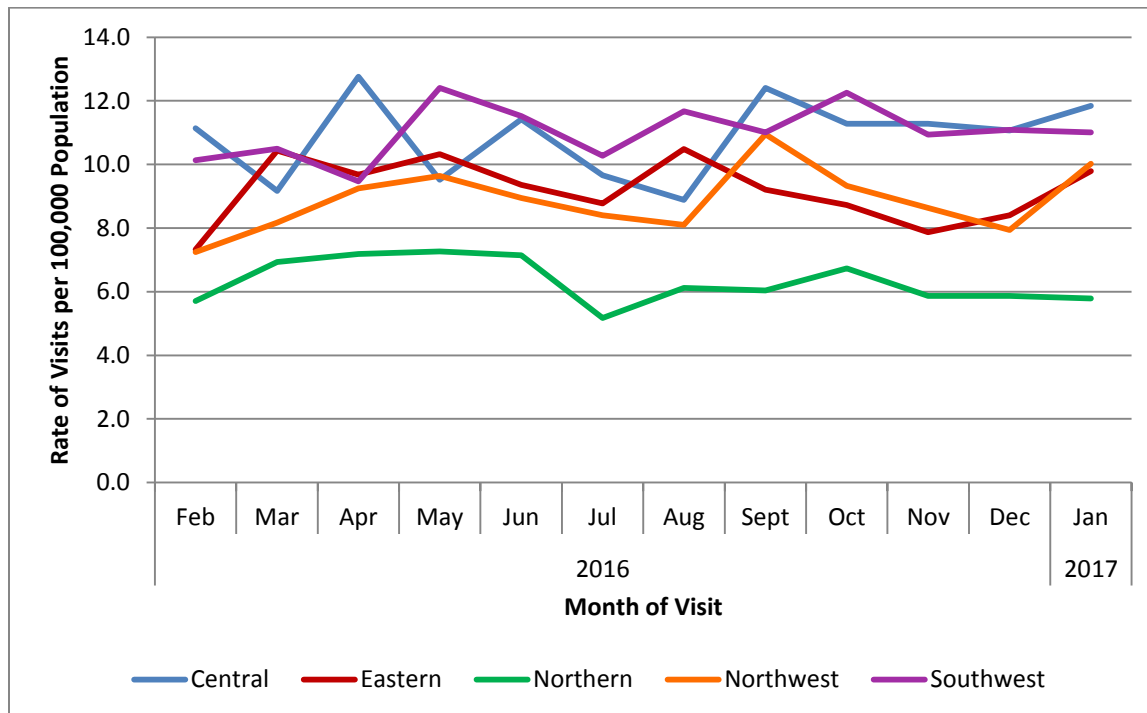
- Among the 5 [VDH health planning regions](#), visits for overdose by heroin increased in the Northern (8 additional visits, 57%) and Northwest (4 additional visits, 15%) regions. Visits in the Eastern, Central, and Southwest Regions decreased.
- By sex, visits for overdose by heroin increased among females (1 additional visit, 3%) and decreased among males (1 fewer visit, 1%).
- By age group, visits for overdose by heroin increased among those aged 35-44 years (4 additional visits, 29%), 45-55 years (2 additional visits, 17%), and 55-64 years (1 additional visit, 17%). The largest proportion of visits, however, remained among those aged 25-34 years representing 41% of visits over the previous 12 months as well as the highest visit rate per 100,000 population.
- Among the 35 [VDH health districts](#), the most notable increases in visits for overdose by heroin were observed in Prince William (200%), Loud Fairfax (150%), and Fairfax (120%). Hampton surpassed Rappahannock-Rapidan as the VDH health district with the highest visit rate per 100,000 population.

## Emergency Department Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents

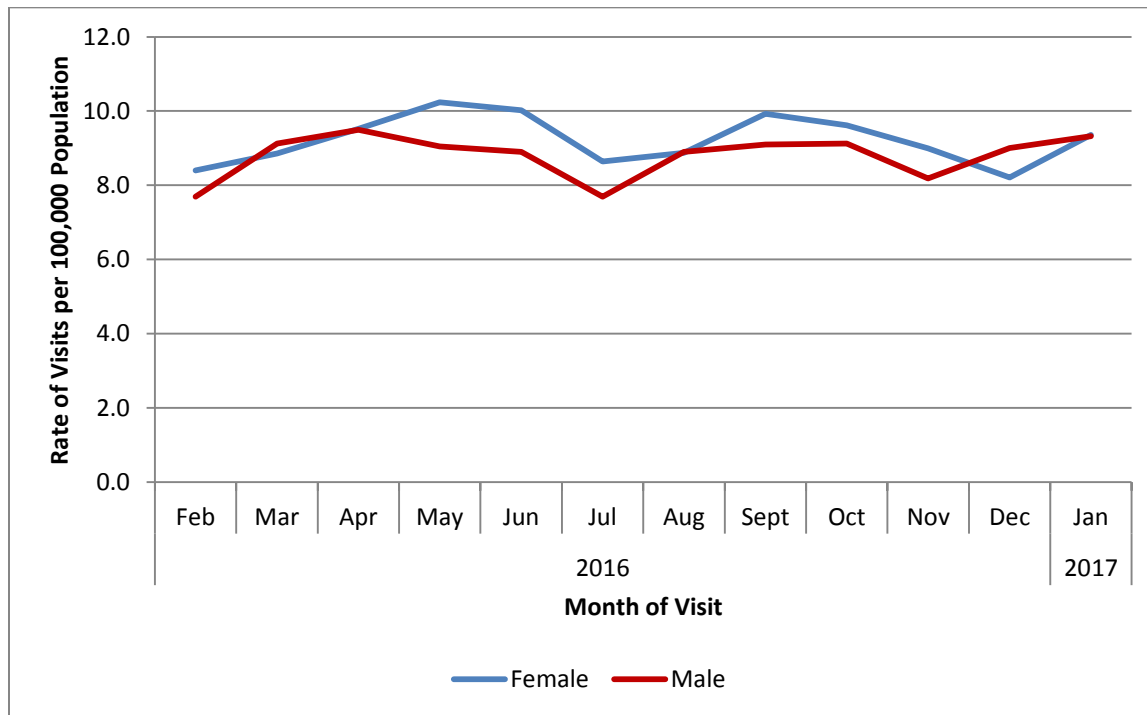
**Figure 1A.** Count of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month, 2015 - 2017



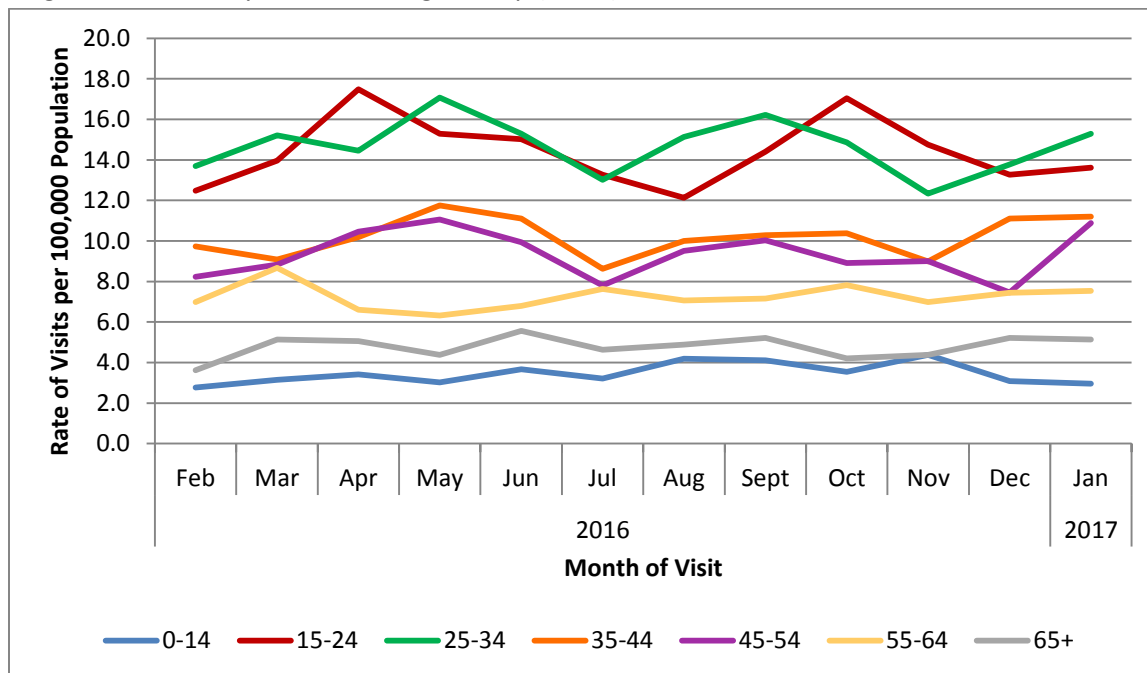
**Figure 1B.** Rate of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and Health Region, Previous 12 Months



**Figure 1C.** Rate of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and Sex, Previous 12 Months



**Figure 1D.** Rate of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and Age Group (Years), Previous 12 Months



**Table 1A.** Count and Rate per 100,000 Population of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and Health District, Previous 6 Months<sup>†\*</sup>

Health District	2015 Population Estimate	Aug 2016		Sept 2016		Oct 2016		Nov 2016		Dec 2016		Jan 2017	
		Count	Count	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Alexandria	159,571	13	8.1	*	*	12	7.5	5	3.1	10	6.3	13	8.1
Alleghany	179,604	16	8.9	21	11.7	24	13.4	21	11.7	21	11.7	25	13.9
Arlington	234,678	13	5.5	14	6.0	13	5.5	11	4.7	14	6.0	12	5.1
Central Shenandoah	297,621	9	3.0	13	4.4	10	3.4	15	5.0	9	3.0	10	3.4
Central Virginia	259,900	21	8.1	32	12.3	19	7.3	21	8.1	28	10.8	12	4.6
Chesapeake	238,283	25	10.5	30	12.6	17	7.1	21	8.8	27	11.3	29	12.2
Chesterfield	379,107	23	6.1	35	9.2	36	9.5	28	7.4	36	9.5	46	12.1
Chickahominy	154,089	15	9.7	13	8.4	14	9.1	17	11.0	14	9.1	16	10.4
Crater	157,517	14	8.9	16	10.2	14	8.9	7	4.4	12	7.6	11	7.0
Cumberland Plateau	110,381	16	14.5	11	10.0	14	12.7	12	10.9	9	8.2	6	5.4
Eastern Shore	45,692	*	*	*	*	*	*	*	*	*	*	5	10.9
Fairfax	1,166,706	69	5.9	82	7.0	73	6.3	77	6.6	61	5.2	69	5.9
Hampton	138,626	20	14.4	10	7.2	14	10.1	11	7.9	16	11.5	25	18.0
Henrico	320,717	37	11.5	45	14.0	49	15.3	52	16.2	45	14.0	46	14.3
Lenowisco	91,830	16	17.4	10	10.9	14	15.2	10	10.9	13	14.2	14	15.2
Lord Fairfax	229,120	21	9.2	34	14.8	29	12.7	27	11.8	23	10.0	25	10.9
Loudoun	374,451	24	6.4	15	4.0	26	6.9	19	5.1	27	7.2	16	4.3
Mount Rogers	191,012	17	8.9	17	8.9	14	7.3	14	7.3	12	6.3	17	8.9
New River	182,991	10	5.5	10	5.5	17	9.3	17	9.3	11	6.0	12	6.6
Norfolk	247,189	24	9.7	18	7.3	19	7.7	20	8.1	15	6.1	18	7.3
Peninsula	353,464	46	13.0	41	11.6	39	11.0	34	9.6	29	8.2	49	13.9
Piedmont	104,667	7	6.7	12	11.5	9	8.6	9	8.6	9	8.6	7	6.7
Pittsylvania-Danville	105,799	16	15.1	14	13.2	7	6.6	10	9.5	12	11.3	13	12.3
Portsmouth	96,874	28	28.9	12	12.4	16	16.5	12	12.4	19	19.6	9	9.3
Prince William	500,740	30	6.0	34	6.8	40	8.0	31	6.2	31	6.2	31	6.2
Rappahannock	350,535	33	9.4	46	13.1	36	10.3	27	7.7	26	7.4	43	12.3
Rappahannock-Rapidan	171,228	21	12.3	23	13.4	21	12.3	21	12.3	28	16.4	31	18.1
Richmond City	217,938	19	8.7	44	20.2	34	15.6	38	17.4	32	14.7	36	16.5
Roanoke	99,681	23	23.1	21	21.1	32	32.1	25	25.1	24	24.1	21	21.1
Southside	84,304	11	13.0	11	13.0	*	*	9	10.7	9	10.7	6	7.1
Thomas Jefferson	248,500	21	8.5	26	10.5	25	10.1	22	8.9	17	6.8	21	8.5
Three Rivers	141,609	13	9.2	12	8.5	14	9.9	12	8.5	13	9.2	15	10.6
Virginia Beach	453,500	30	6.6	29	6.4	26	5.7	29	6.4	26	5.7	25	5.5
West Piedmont	141,119	24	17.0	14	9.9	26	18.4	19	13.5	21	14.9	30	21.3
Western Tidewater	153,950	7	4.5	16	10.4	16	10.4	6	3.9	9	5.8	8	5.2
VIRGINIA TOTAL	8,382,993	735	8.8	787	9.4	775	9.2	711	8.5	711	8.5	772	9.2

<sup>†</sup> Rate per 100,000 population based on 2015 U.S. Census estimates available at [www.census.gov/popest/](http://www.census.gov/popest/)

\* Visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed to maintain confidentiality and accurate rate calculations.

**Table 1B.** Count and Rate per 100,000 Population of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and City/County Locality, Previous 6 Months<sup>††\*</sup>

Locality	2015 Population Estimate	Aug 2016		Sept 2016		Oct 2016		Nov 2016		Dec 2016		Jan 2017	
		Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Accomack County	32,973	*	*	*	*	*	*	*	*	*	*	*	*
Albemarle County <sup>†</sup>	152,300	9	5.9	19	12.5	12	7.9	11	7.2	9	5.9	9	5.9
Alleghany County <sup>†</sup>	21,335	5	23.4	*	*	*	*	*	*	*	*	0	0
Amelia County	12,903	0	0	*	*	0	0	0	0	*	*	0	0
Amherst County	31,914	*	*	*	*	*	*	*	*	*	*	*	*
Appomattox County	15,414	*	*	*	*	*	*	*	*	*	*	0	0
Arlington County	229,164	13	5.7	14	6.1	13	5.7	11	4.8	14	6.1	12	5.2
Augusta County <sup>†</sup>	120,221	*	*	*	*	*	*	*	*	0	0	*	*
Bath County	4,470	0	0	0	0	0	0	0	0	0	0	0	0
Bedford County	77,724	7	9.0	7	9.0	6	7.7	*	*	7	9.0	*	*
Bland County	6,561	0	0	0	0	0	0	0	0	0	0	0	0
Botetourt County	33,347	*	*	*	*	*	*	5	15.0	*	*	*	*
Brunswick County	16,698	*	*	*	*	0	0	*	*	0	0	*	*
Buchanan County	22,776	0	0	*	*	*	*	6	26.3	*	*	0	0
Buckingham County	17,032	0	0	*	*	*	*	*	*	*	*	*	*
Campbell County	55,086	*	*	5	9.1	*	*	*	*	6	10.9	*	*
Caroline County	29,984	5	16.7	8	26.7	*	*	*	*	*	*	*	*
Carroll County	29,724	*	*	*	*	*	*	*	*	*	*	*	*
Charles City County	7,040	*	*	0	0	0	0	0	0	*	*	0	0
Charlotte County	12,201	*	*	*	*	0	0	*	*	*	*	*	*
Chesterfield County <sup>†</sup>	353,507	21	5.9	32	9.1	35	9.9	26	7.4	35	9.9	43	12.2
Clarke County	14,363	0	0	0	0	*	*	0	0	0	0	*	*
Craig County	5,211	0	0	*	*	*	*	0	0	0	0	*	*
Culpeper County	49,432	8	16.2	6	12.1	9	18.2	*	*	13	26.3	10	20.2
Cumberland County	9,719	*	*	*	*	0	0	*	*	*	*	0	0
Dickenson County	15,115	5	33.1	*	*	*	*	0	0	*	*	*	*
Dinwiddie County	27,852	0	0	0	0	0	0	*	*	*	*	0	0
Essex County	11,130	*	*	*	*	0	0	0	0	*	*	0	0
Fairfax County <sup>†</sup>	1,180,139	69	5.8	82	6.9	73	6.2	77	6.5	61	5.2	69	5.8
Fauquier County	68,782	6	8.7	9	13.1	8	11.6	10	14.5	11	16.0	12	17.4
Floyd County	15,651	*	*	*	*	*	*	0	0	0	0	0	0
Fluvanna County	26,235	*	*	0	0	*	*	*	*	*	*	*	*
Franklin County	56,264	5	8.9	7	12.4	8	14.2	6	10.7	*	*	9	16.0
Frederick County <sup>†</sup>	110,483	11	10.0	18	16.3	11	10.0	11	10.0	7	6.3	9	8.1
Giles County	16,708	*	*	0	0	*	*	*	*	*	*	*	*
Gloucester County	37,143	*	*	*	*	*	*	*	*	*	*	*	*
Goochland County	22,253	*	*	0	0	*	*	*	*	*	*	*	*

Locality	2015 Population Estimate	Aug 2016		Sept 2016		Oct 2016		Nov 2016		Dec 2016		Jan 2017	
		Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Grayson County <sup>†</sup>	22,926	6	26.2	*	*	6	26.2	7	30.5	*	*	6	26.2
Greene County	19,162	*	*	*	*	6	31.3	5	26.1	*	*	*	*
Greensville County <sup>†</sup>	17,381	*	*	*	*	*	*	*	*	*	*	*	*
Halifax County	35,125	5	14.2	*	*	*	*	*	*	*	*	*	*
Hanover County	103,227	9	8.7	11	10.7	9	8.7	12	11.6	8	7.7	10	9.7
Henrico County	325,155	37	11.4	45	13.8	49	15.1	52	16.0	45	13.8	46	14.1
Henry County <sup>†</sup>	65,526	18	27.5	7	10.7	17	25.9	13	19.8	17	25.9	21	32.0
Highland County	2,214	0	0	0	0	0	0	0	0	0	0	0	0
Isle of Wight County	36,314	*	*	*	*	*	*	*	*	*	*	0	0
James City County	73,147	5	6.8	10	13.7	*	*	11	15.0	*	*	15	20.5
King and Queen County	7,158	*	*	0	0	0	0	0	0	0	0	*	*
King George County	25,515	*	*	*	*	*	*	*	*	*	*	6	23.5
King William County	16,269	*	*	*	*	*	*	*	*	*	*	*	*
Lancaster County	10,965	0	0	*	*	*	*	*	*	0	0	*	*
Lee County	24,742	*	*	*	*	*	*	*	*	0	0	*	*
Loudoun County	375,629	24	6.4	15	4.0	26	6.9	19	5.1	27	7.2	16	4.3
Louisa County	34,602	6	17.3	6	17.3	6	17.3	*	*	*	*	5	14.5
Lunenburg County	12,299	*	*	*	*	0	0	0	0	*	*	*	*
Madison County	13,134	*	*	*	*	*	*	*	*	*	*	*	*
Mathews County	8,862	*	*	*	*	*	*	0	0	*	*	0	0
Mecklenburg County	31,081	*	*	5	16.1	*	*	6	19.3	6	19.3	*	*
Middlesex County	10,606	*	*	0	0	*	*	0	0	*	*	*	*
Montgomery County <sup>†</sup>	115,056	5	4.3	5	4.3	11	9.6	8	7.0	6	5.2	6	5.2
Nelson County	14,785	*	*	0	0	0	0	*	*	0	0	*	*
New Kent County	20,392	*	*	*	*	*	*	*	*	*	*	*	*
Northampton County	12,155	*	*	*	*	*	*	*	*	*	*	*	*
Northumberland County	12,232	0	0	*	*	*	*	*	*	0	0	*	*
Nottoway County	15,673	*	*	*	*	0	0	*	*	0	0	*	*
Orange County	35,385	6	17.0	*	*	*	*	5	14.1	*	*	7	19.8
Page County	23,726	*	*	*	*	*	*	*	*	*	*	5	21.1
Patrick County	18,045	*	*	0	0	*	*	0	0	0	0	0	0
Pittsylvania County <sup>†</sup>	104,276	16	15.3	14	13.4	7	6.7	10	9.6	12	11.5	13	12.5
Powhatan County	28,031	*	*	*	*	*	*	*	*	*	*	*	*
Prince Edward County	22,952	*	*	*	*	5	21.8	*	*	*	*	*	*
Prince George County	92,717	10	10.8	12	12.9	10	10.8	5	5.4	8	8.6	8	8.6
Prince William County <sup>†</sup>	509,211	30	5.9	34	6.7	40	7.9	31	6.1	31	6.1	31	6.1
Pulaski County	34,332	*	*	*	*	0	0	5	14.6	*	*	5	14.6
Rappahannock County	7,378	0	0	0	0	0	0	*	*	*	*	*	*
Richmond County	8,908	*	*	0	0	*	*	0	0	0	0	0	0
Roanoke County <sup>†</sup>	94,409	33	15.0	34	15.5	48	21.8	38	17.3	40	18.2	44	20.0

Locality	2015 Population Estimate	Aug 2016		Sept 2016		Oct 2016		Nov 2016		Dec 2016		Jan 2017	
		Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Rockbridge County <sup>†</sup>	36,234	*	*	*	*	*	*	*	*	*	*	*	*
Rockingham County <sup>†</sup>	131,131	5	3.8	8	6.1	7	5.3	12	9.2	8	6.1	*	*
Russell County	27,891	5	17.9	*	*	*	*	*	*	*	*	*	*
Scott County	22,126	0	0	0	0	*	*	0	0	0	0	0	0
Shenandoah County	43,190	*	*	9	20.8	9	20.8	5	11.6	8	18.5	5	11.6
Smyth County	31,470	7	22.2	8	25.4	6	19.1	5	15.9	*	*	*	*
Southampton County <sup>†</sup>	26,599	*	*	*	*	*	*	*	*	0	0	0	0
Spotsylvania County	130,475	12	9.2	16	12.3	10	7.7	12	9.2	10	7.7	22	16.9
Stafford County	142,003	10	7.0	15	10.6	15	10.6	8	5.6	5	3.5	9	6.3
Surry County	6,709	*	*	*	*	0	0	0	0	0	0	0	0
Sussex County	11,715	*	*	*	*	*	*	0	0	0	0	0	0
Tazewell County	42,899	6	14.0	*	*	*	*	*	*	*	*	*	*
Warren County	39,083	5	12.8	6	15.4	*	*	8	20.5	5	12.8	5	12.8
Washington County <sup>†</sup>	71,732	*	*	*	*	0	0	*	*	*	*	5	7.0
Westmoreland County	17,629	*	*	*	*	*	*	*	*	*	*	*	*
Wise County <sup>†</sup>	43,657	14	32.1	7	16.0	10	22.9	8	18.3	13	29.8	12	27.5
Wythe County	29,119	0	0	0	0	0	0	0	0	0	0	0	0
York County	67,837	6	8.8	6	8.8	5	7.4	*	*	*	*	*	*
Alexandria City	153,511	13	8.5	*	*	12	7.8	5	3.3	10	6.5	13	8.5
Bristol City <sup>†</sup>	71,732	*	*	*	*	0	0	*	*	*	*	5	7.0
Buena Vista City <sup>†</sup>	36,234	*	*	*	*	*	*	*	*	*	*	*	*
Charlottesville City <sup>†</sup>	152,300	9	5.9	19	12.5	12	7.9	11	7.2	9	5.9	9	5.9
Chesapeake City	235,429	25	10.6	30	12.7	17	7.2	21	8.9	27	11.5	29	12.3
Colonial Heights City <sup>†</sup>	353,507	21	5.9	32	9.1	35	9.9	26	7.4	35	9.9	43	12.2
Covington City <sup>†</sup>	21,335	5	23.4	*	*	*	*	*	*	*	*	0	0
Danville City <sup>†</sup>	104,276	16	15.3	14	13.4	7	6.7	10	9.6	12	11.5	13	12.5
Emporia City <sup>†</sup>	17,381	*	*	*	*	*	*	*	*	*	*	*	*
Fairfax City <sup>†</sup>	1,180,139	69	5.8	82	6.9	73	6.2	77	6.5	61	5.2	69	5.8
Falls Church City <sup>†</sup>	1,180,139	69	5.8	82	6.9	73	6.2	77	6.5	61	5.2	69	5.8
Franklin City <sup>†</sup>	26,599	*	*	*	*	*	*	*	*	0	0	0	0
Fredericksburg City	28,118	*	*	*	*	*	*	*	*	*	*	*	*
Galax City <sup>†</sup>	22,926	6	26.2	*	*	6	26.2	7	30.5	*	*	6	26.2
Hampton City	136,454	20	14.7	10	7.3	14	10.3	11	8.1	16	11.7	25	18.3
Harrisonburg City <sup>†</sup>	131,131	5	3.8	8	6.1	7	5.3	12	9.2	8	6.1	*	*
Hopewell City <sup>†</sup>	92,717	10	10.8	12	12.9	10	10.8	5	5.4	8	8.6	8	8.6
Lexington City <sup>†</sup>	36,234	*	*	*	*	*	*	*	*	*	*	*	*
Lynchburg City	79,812	7	8.8	14	17.5	6	7.5	9	11.3	9	11.3	6	7.5
Manassas City <sup>†</sup>	509,211	30	5.9	34	6.7	40	7.9	31	6.1	31	6.1	31	6.1
Manassas Park City <sup>†</sup>	509,211	30	5.9	34	6.7	40	7.9	31	6.1	31	6.1	31	6.1
Martinsville City <sup>†</sup>	65,526	18	27.5	7	10.7	17	25.9	13	19.8	17	25.9	21	32.0

Locality	2015 Population Estimate	Aug 2016		Sept 2016		Oct 2016		Nov 2016		Dec 2016		Jan 2017	
		Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Newport News City	182,385	30	16.4	22	12.1	31	17.0	20	11.0	24	13.2	28	15.4
Norfolk City	246,393	24	9.7	18	7.3	19	7.7	20	8.1	15	6.1	18	7.3
Norton City <sup>†</sup>	43,657	14	32.1	7	16.0	10	22.9	8	18.3	13	29.8	12	27.5
Petersburg City <sup>†</sup>	92,717	10	10.8	12	12.9	10	10.8	5	5.4	8	8.6	8	8.6
Poquoson City	12,059	5	41.5	*	*	*	*	0	0	*	*	*	*
Portsmouth City	96,201	28	29.1	12	12.5	16	16.6	12	12.5	19	19.8	9	9.4
Radford City <sup>†</sup>	115,056	5	4.3	5	4.3	11	9.6	8	7.0	6	5.2	6	5.2
Richmond City	220,289	19	8.6	44	20.0	34	15.4	38	17.3	32	14.5	36	16.3
Roanoke City <sup>†</sup>	99,897	33	15.0	34	15.5	48	21.8	38	17.3	40	18.2	44	20.0
Salem City <sup>†</sup>	25,432	33	15.0	34	15.5	48	21.8	38	17.3	40	18.2	44	20.0
Staunton City <sup>†</sup>	120,221	*	*	*	*	*	*	*	*	0	0	*	*
Suffolk City	88,161	5	5.7	10	11.3	9	10.2	*	*	6	6.8	8	9.1
Virginia Beach City	452,745	30	6.6	29	6.4	26	5.7	29	6.4	26	5.7	25	5.5
Waynesboro City <sup>‡</sup>	120,221	*	*	*	*	*	*	*	*	0	0	*	*
Williamsburg City	15,052	0	0	0	0	0	0	0	0	0	0	*	*
Winchester City <sup>‡</sup>	110,483	11	10.0	18	16.3	11	10.0	11	10.0	7	6.3	9	8.1
VIRGINIA TOTAL	8,382,993	735	8.8	787	9.4	775	9.2	711	8.5	711	8.5	772	9.2

<sup>†</sup> Rate per 100,000 population based on 2015 U.S. Census estimates available at [www.census.gov/popest/](http://www.census.gov/popest/)

<sup>‡</sup> The rate per 100,000 population for each locality within a combined group is based on the aggregated total population of the combined group. Refer to [Appendix 1](#) for the list of localities that are combined.

\* Visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed to maintain confidentiality and accurate rate calculations.

**Table 1C.** Count and Rate per 100,000 Population of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and Virginia State Police Division, Previous 6 Months<sup>†\*</sup>§

VSP Division	2015 Population Estimate	Aug 2016		Sept 2016		Oct 2016		Nov 2016		Dec 2016		Jan 2017	
		Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Division 1	1,403,431	125	8.9	177	12.6	165	11.8	158	11.3	152	10.8	179	12.8
Division 2	836,683	72	8.6	100	12.0	85	10.2	84	10.0	78	9.3	93	11.1
Division 3	655,338	47	7.2	65	9.9	47	7.2	54	8.2	52	7.9	36	5.5
Division 4	441,778	53	12.0	41	9.3	46	10.4	45	10.2	39	8.8	43	9.7
Division 5	1,823,018	196	10.8	169	9.3	159	8.7	140	7.7	155	8.5	177	9.7
Division 6	775,091	93	12.0	88	11.4	109	14.1	87	11.2	92	11.9	103	13.3
Division 7	2,447,654	149	6.1	147	6.0	164	6.7	143	5.8	143	5.8	141	5.8
VIRGINIA TOTAL	8,382,993	735	8.8	787	9.4	775	9.2	711	8.5	711	8.5	772	9.2

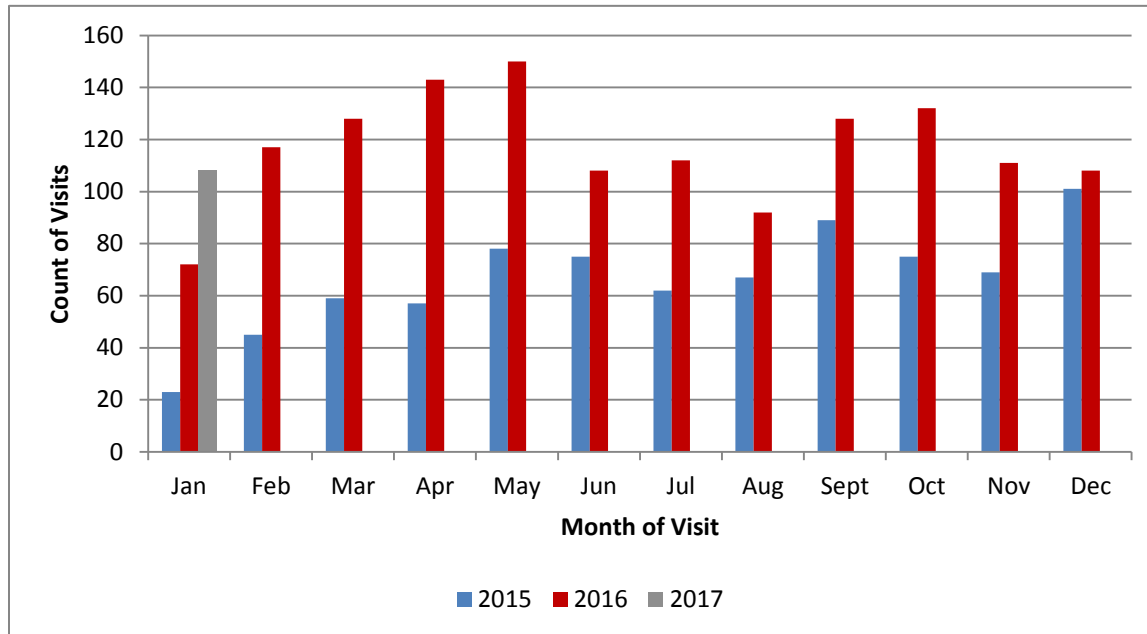
† Rate per 100,000 population based on 2015 U.S. Census estimates available at [www.census.gov/popest/](http://www.census.gov/popest/)

\* Visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed to maintain confidentiality and accurate rate calculations.

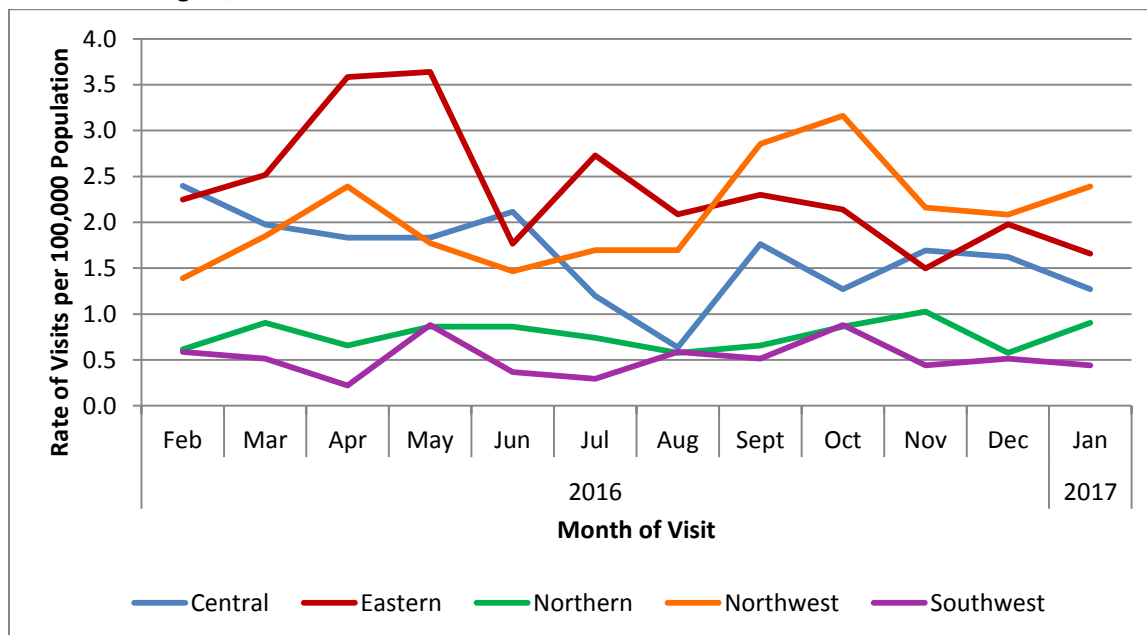
§ Virginia State Police Divisions available at [http://www.vsp.state.va.us/Office\\_Locations.shtm](http://www.vsp.state.va.us/Office_Locations.shtm)

## Emergency Department Visits for Unintentional Overdose by Heroin among Virginia Residents

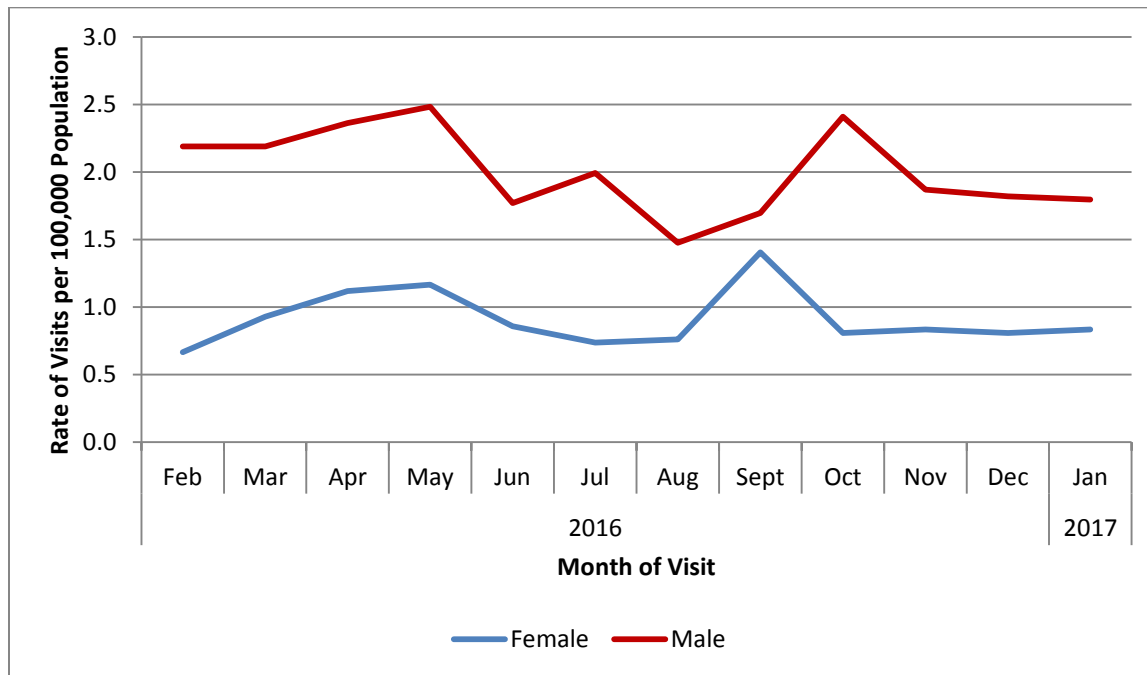
**Figure 2A.** Count of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month, 2015 - 2017



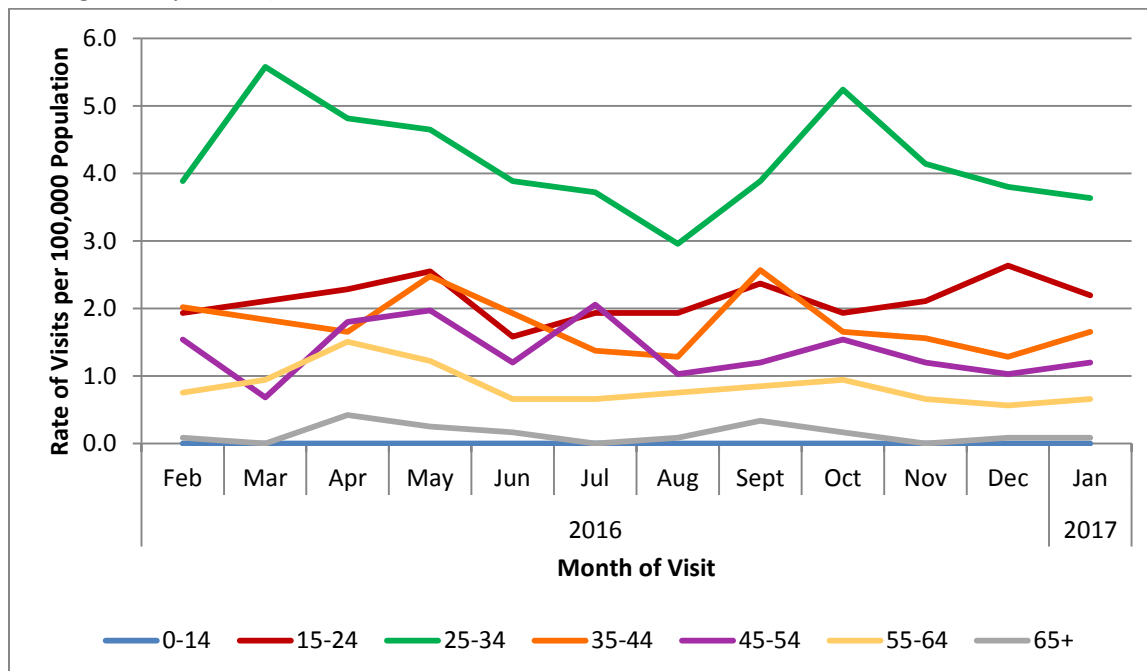
**Figure 2B.** Rate of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month and Health Region, Previous 12 Months



**Figure 2C.** Rate of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month and Sex, Previous 12 Months



**Figure 2D.** Rate of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month and Age Group (Years), Previous 12 Months



**Table 2A.** Count and Rate per 100,000 Population of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month and Health District, Previous 6 Months<sup>†\*</sup>

Health District	2015 Population Estimate	Aug 2016		Sept 2016		Oct 2016		Nov 2016		Dec 2016		Jan 2017	
		Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Alexandria	159,571	*	*	0	0	0	0	*	*	0	0	0	0
Alleghany	179,604	5	2.8	*	*	*	*	*	*	*	*	*	*
Arlington	234,678	0	0	*	*	*	*	0	0	*	*	*	*
Central Shenandoah	297,621	*	*	*	*	0	0	0	0	0	0	*	*
Central Virginia	259,900	0	0	*	*	0	0	*	*	0	0	*	*
Chesapeake	238,283	8	3.4	5	2.1	10	4.2	*	*	5	2.1	*	*
Chesterfield	379,107	0	0	*	*	8	2.1	*	*	7	1.8	6	1.6
Chickahominy	154,089	0	0	5	3.2	0	0	*	*	*	*	*	*
Crater	157,517	*	*	0	0	*	*	*	*	*	*	0	0
Cumberland Plateau	110,381	0	0	0	0	0	0	0	0	0	0	0	0
Eastern Shore	45,692	0	0	0	0	0	0	0	0	0	0	0	0
Fairfax	1,166,706	8	0.7	9	0.8	14	1.2	11	0.9	5	0.4	11	0.9
Hampton	138,626	*	*	*	*	0	0	*	*	6	4.3	7	5.0
Henrico	320,717	*	*	6	1.9	*	*	12	3.7	9	2.8	7	2.2
Lenowisco	91,830	0	0	0	0	0	0	0	0	0	0	0	0
Lord Fairfax	229,120	5	2.2	6	2.6	15	6.5	7	3.1	*	*	10	4.4
Loudoun	374,451	0	0	*	*	*	*	*	*	*	*	*	*
Mount Rogers	191,012	0	0	0	0	*	*	0	0	*	*	0	0
New River	182,991	0	0	*	*	0	0	*	*	0	0	0	0
Norfolk	247,189	12	4.9	12	4.9	5	2.0	6	2.4	5	2.0	7	2.8
Peninsula	353,464	*	*	7	2.0	6	1.7	*	*	*	*	*	*
Piedmont	104,667	0	0	0	0	0	0	0	0	0	0	0	0
Pittsylvania-Danville	105,799	0	0	0	0	0	0	0	0	0	0	0	0
Portsmouth	96,874	6	6.2	6	6.2	5	5.2	*	*	*	*	*	*
Prince William	500,740	5	1.0	*	*	*	*	10	2.0	*	*	9	1.8
Rappahannock	350,535	11	3.1	12	3.4	10	2.9	7	2.0	12	3.4	10	2.9
Rappahannock-Rapidan	171,228	*	*	11	6.4	15	8.8	10	5.8	9	5.3	5	2.9
Richmond City	217,938	*	*	9	4.1	*	*	7	3.2	*	*	*	*
Roanoke	99,681	*	*	*	*	7	7.0	*	*	*	*	*	*
Southside	84,304	0	0	*	*	0	0	0	0	0	0	0	0
Thomas Jefferson	248,500	*	*	7	2.8	*	*	*	*	*	*	*	*
Three Rivers	141,609	0	0	0	0	*	*	*	*	*	*	*	*
Virginia Beach	453,500	*	*	9	2.0	12	2.6	7	1.5	7	1.5	8	1.8
West Piedmont	141,119	*	*	0	0	*	*	0	0	*	*	0	0
Western Tidewater	153,950	5	3.2	*	*	0	0	*	*	*	*	0	0
VIRGINIA TOTAL	8,382,993	92	1.1	128	1.5	132	1.6	111	1.3	108	1.3	108	1.3

<sup>†</sup> Rate per 100,000 population based on 2015 U.S. Census estimates available at [www.census.gov/popest/](http://www.census.gov/popest/)

\* Visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed to maintain confidentiality and accurate rate calculations.

**Table 2B.** Count and Rate per 100,000 Population of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month and Virginia State Police Division, Previous 6 Months<sup>†\*§</sup>

VSP Division	2015 Population Estimate	Aug 2016		Sept 2016		Oct 2016		Nov 2016		Dec 2016		Jan 2017	
		Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Division 1	1,403,431	11	0.8	25	1.8	20	1.4	26	1.9	28	2.0	21	1.5
Division 2	836,683	20	2.4	27	3.2	39	4.7	24	2.9	23	2.7	27	3.2
Division 3	655,338	0	0	9	1.4	*	*	*	*	0	0	*	*
Division 4	441,778	0	0	0	0	*	*	0	0	*	*	0	0
Division 5	1,823,018	39	2.1	43	2.4	39	2.1	28	1.5	36	2.0	30	1.6
Division 6	775,091	8	1.0	8	1.0	11	1.4	6	0.8	6	0.8	6	0.8
Division 7	2,447,654	14	0.6	16	0.7	21	0.9	25	1.0	14	0.6	22	0.9
VIRGINIA TOTAL	8,382,993	92	1.1	128	1.5	132	1.6	111	1.3	108	1.3	108	1.3

† Rate per 100,000 population based on 2015 U.S. Census estimates available at [www.census.gov/popest/](http://www.census.gov/popest/)

\* Visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed to maintain confidentiality and accurate rate calculations.

§ Virginia State Police Divisions available at [http://www.vsp.state.va.us/Office\\_Locations.shtm](http://www.vsp.state.va.us/Office_Locations.shtm)

## Appendix 1

Virginia Localities that were Combined for the Purposes of Calculating Rate per 100,000 Population

- Alleghany County and Covington City
- Albemarle County and Charlottesville City
- Augusta County, Staunton City, and Waynesboro City
- Chesterfield County and Colonial Heights City
- Frederick County and Winchester City
- Fairfax County, Fairfax City, and Falls Church City
- Grayson County and Galax City
- Greenville County and Emporia City
- Henry County and Martinsville City
- Montgomery County and Radford City
- Pittsylvania County and Danville City
- Prince George County, Hopewell City, and Petersburg City
- Prince William County, Manassas City, and Manassas Park City
- Roanoke County, Roanoke City, and Salem City
- Rockingham County and Harrisonburg City
- Rockbridge County, Buena Vista City, and Lexington City
- Southampton County and Franklin City
- Washington County and Bristol City
- Wise County and Norton City